

## REMARKS

### **Claim Objections**

We have now corrected claims 30-35, 37-39 and 41 as indicated by the Examiner.

### **Claim rejections 35 USC §112**

Claims 37 and 41 are corrected.

### **Claim Rejections – 35 USC § 102**

Claims 29-34 are rejected as anticipated by US 6,688,066 to Cotter et al. The applicant respectfully TRAVERSES.

The Examiner states that Cotter et al discloses a layered structural element for use in marine vessels (see figures 2-4), where the layered structural element comprises two substantially parallel metal sheets 11/15 spaced apart to define a void 17 therebetween, wherein the void 17 is filled with a layer of cementitious material having a density less than  $1200 \text{ kg/m}^3$  (col. 8, lines 15-18), where the element further comprises means 51 (Fig. 4) for increasing bonding properties or connecting properties between the metal sheets and the cementitious layer. According to this claim 29 is anticipated by Cottier et al.

We agree with the Examiner that Cottier et al discloses a layered element comprised by two substantially parallel sheets forming the external and internal wall of the layered structure, where a cementitious material is filled between the sheets. The cementitious material is stated to have a density of between  $200 \text{ kg/m}^3$  and around  $1200 \text{ kg/m}^3$ , ideally around  $550 \text{ kg/m}^3$ .

However, we respectfully disagree with the Examiner that the layered element can be used in marine vessels, that the sheets are metal sheets and that the means 51 can increase the bonding or connecting properties between the sheets and the cementitious layer.

In this respect, we would like to refer to column 1, lines 5 – 13, where it is stated that the present invention according to Cottier et al relates generally to building construction techniques and more particularly to methods of constructing building partitions such as walls, ceilings and the like. However, it will be appreciated that the invention can be applied to other similar constructions such as floors, ceilings and fences etc. We can therefore not see that Cottier et al teaches a layered structural element for use in a marine vessel.

Furthermore, the external and internal sheets 11, 15 are stated to be fibre reinforced sheets, where the sheets are further specified in tables A, B and C to be fibre reinforced sheeting such as Villaboard or Hardiwall, Gypsum wall board or fire rated Gypsum board. Nowhere is it indicated or suggested that the sheets are/can be metal sheets.

What the Examiner has indicated to be means 51 for increasing the bonding or connecting properties between the sheets and the cementitious layer is in col. 10, lines 30 – 32 indicated to be staples. The staples 51 are only used to secure the sheets to the vertically oriented studs 3. Cottier et al. neither describes nor suggests that the bonding or connecting properties between the sheets and the cementitious layer are important, or that the staples can increase such bonding.

Based on the above, we respectfully disagree with the Examiner that claims 29 – 34 are anticipated by Cottier et al.

### **Claims Rejections – 35 USC § 103.**

We respectfully disagree with the Examiner that claims 35 – 41 are not patentable over US 6,688,066 to Cottier et al in view of US 6,418,686 to Record.

According to the present invention, claim 35 regards how an already existing construction can be retrofit to a structural element according to claim 29, where the existing construction is comprised of a first metal sheet being corrugated. In order to obtain the layered structure according to claim 29, see for instance figures 10 and 11, another planar metal sheet is arranged against the corrugated sheet in order to form a plurality of elongated channels, said channels thereafter being filled with the cementitious layer.

Cottier on the other hand teaches a method for constructing a solid filled wall in which *spaced apart* frame members are used, with a cladding layer applied to each side of the

spaced-apart frame members. (See col 2, line 3; col 3, line 63; col 7 line 21 and col 7 line 51 et seq. )

In the first instance, there is no teaching in Cottier et al or Report, or the combination of the two, that the fibre reinforced sheets are to be arranged against each other, in order to form a plurality of elongated channels between the two sheets. Instead, the fibre reinforced sheets in Cottier are planar and arranged with an equal distance between them. In fact arranging the corrugated sheet from Report against one sheet from Cottier would defeat the intended purpose of Cottier of using spaced apart frame members.

Secondly, we cannot see that the examiner has identified a sufficient rationale to modify Cottier et al, with the identified feature from Record, namely the corrugated sheet. The stated rationale of "to enhance integrity" is respectfully believed to be conclusory in nature and does not rise to the even more relaxed standards articulated by the Supreme Court in *KSR*, especially in light of the stated purpose of Cottier.

A compelling rationale is believed necessary considering that the present invention regards a structural element for use in a marine vessel. One skilled in the art would appreciate that a vessel will be subjected to constant external and internal loads, where these loads, in addition, will be dynamic (their amplitude will vary greatly). The external and internal loads may for instance be the pressure of water on the hull, the waves, loads from cargo, torsion or twisting of the vessel in sea etc. with a structural element for a building.

In contrast, no such considerations are present in the case of the building element described in Cottier. A wall in a building will not be subjected to the same extreme and accidental loads. It would therefore not be natural to a person skilled in the art to make use of building construction techniques when constructing a vessel.

In addition, the missing claim elements discussed above in connection with the §102 rejection are not believed supplied by Report, therefore a *prima facie* case of obviousness is not believed established.